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ABSTRACT

Recommendations over a decade ago from the National Institute of Education have led to a paradigm shift in the teaching profession, based on changes in how knowledge is acquired, what role students play, and what purpose faculty members serve in the process. In the old paradigm, knowledge was transferred from faculty to student in what was referred to as the "banking model," where information is deposited into students. In the new paradigm, faculty and students jointly construct knowledge, with students taking a more active role in their own education. Computer-based instruction provides the most potential of a technology-induced active learning atmosphere. Instructors interested in facilitating active learning need to find ways of using various levels of technology to enhance the natural and personal learning of students. In 1987, the faculty at the University of Arkansas at Little Rock (UALR) decided to identify what students should be accomplishing in the basic speech course, and they developed the necessary course materials to achieve those objectives. Examples of how technology has been used to give students more control and more opportunities for discovery in the basic speech course at the UALR are: (1) the use of feature films in class; (2) bar-coded laser discs; and (3) interactive computer-based instruction. (CR)

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Computerized Instruction in Speech Communication and the Development of an Active Learning Approach

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Introduction

Over a decade ago the National Institute of Education (1984) report on improving higher education recommended that students be actively involved in their learning and that faculty develop coursework focusing on this goal. In addition, the Carnegie Foundation's(1986) report on higher education cited active learning and disciplined inquiry as key components in the optimum undergraduate experience. These and other recommendations have led to a paradigm shift in the teaching profession, based on changes in how knowledge is acquired, what role the student plays, and what purpose the faculty member serves in the process.

In the old paradigm, knowledge was transferred from faculty to student, usually in the lecture format, with occasional class discussions concerning material that had been read or heard (Cooper, 1991). The student was a passive container to be filled with the faculty's knowledge; the faculty's main purpose was to classify, sort and judge students based on their ability to recall the information "given" them. Friere (1970) referred to this approach as the banking model where information is "deposited" into students. The professor defines the format of the course as well as its content. In all likelihood, the form and content is based primarily on the instructor's view of the discipline, which is supposedly broader than the students but still limited. Friere suggested that in the banking model, students are asked to passively adapt to their world, not become actively involved in changing it.

In the new paradigm, faculty and students jointly construct knowledge, with the student taking a more active role in his/her education. The faculty and student work together to develop the student's competencies and talents, with the student acting as discoverer and transformer of his/her own knowledge. Rather than relying on the traditional lecture format, the teacher operates under the assumption that it takes more than a content expert to facilitate learning in the classroom (Cooper, 1991).

The shift has been slow, however; the traditional lecture format is still relied upon heavily in most college classrooms. A cursory examination of basic speech textbooks and instructor's manuals serves to confirm that college classrooms across the country are still being conducted in a traditional manner. The instructor maintains control over form and content, even in the more "enlightened" classrooms, where students are participating in experiential exercises and performing in public speaking roles.

Performance Model of Learning

Tompkins (1990) used a performance model to describe an approach to learning that allows the student to become more involved by selecting report

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(or speech) topics and suggesting topics for in-class discussions. Tompkins argued that most professors use the performance model to demonstrate to students their own mastery of the subject matter. In effect, the performance model becomes a kind of student-generated quiz show for the instructor.

On the surface, experiential and performance activities give the student an increased amount of control over the learning experience, but the control is typcially inconsequential at best. For example, while the student may be allowed to select a topic for a written report, the instructor, in all likelihood, has clearly defined the form and structure of the final output (so many pages, a certain style manual, acceptable types of support, acceptable issues to "select."). In the same way, speech instructors allow their students to "actively" participate in the class by selecting any speech topic they like, as long as the speech is persuasive (in a fairly narrow sense of the word), 7-9 minutes long, delivered with notecards, behind a podium, standing up in front of the class, etc. In this performance model, the student ultimately loses out to the "expert" instructor. In most instances, the instructor evaluates the student's performance according to a set of criteria which make perfect sense to the instructor, but may be confusing to the student. Thus, the student is placed in the position of having to perform for the instructor's vicarious thrill of having students model the way he/she would deliver a speech as opposed to performing for the sake of self discovery and development.

Expanded View of Active Learning

Gibbons (1990) appeared to recognize the difference between true active learning and the form that is most often adopted in the classroom. He identified three kinds of learning: natural learning is interactive and spontaneous (what people now refer to as "discovery" learning); formal learning is directed by a prescribed procedure (i.e., a lecture); and personal learning is self-initiated and self-monitered. Cavaliere and Sgroi (1992) maintain that active learning involves all three of these types. "The type of learning we are examining occurs in formal as well as informal settings, and the learners, regardless of the context, are actively involved in their learning. that *action* is the common element that permeates the process (italics ours)" (p. 8). It is only when instructors abandon their traditional control of the classroom and give the student the freedom to take this action, that true active learning can take place.

It's never the case that learning is either active or not. Rather, instruction can be characterized as more or less active. Borrowing from Gibbons' (1990) conceptualization, as instruction involves more learner control and learner discovery, it becomes more active. In increasing the level of activity in a course, instructors can focus on increasing the amount of learner control, i.e., letting the student control the pace and/or direction of study; and learner discovery, i.e., allowing for the student to experience unexpected learning in the course.

Using Technology To Facilitate Active Learning

It's not uncommon to see instructors turn to instructional technology as a source of "activity" in the classroom. In some cases, the technology is obviously passive. The chalkboard, for instance, is the technology d'rigeour in most college classrooms, yet besides being recognized as the poorest visual aid possible, it is also an extremely passive device. What's worse than sitting and listening to the instructor speak? How about sitting and watching the instructor write?

In other instances, the instructional technology provides a fairly credible illusion of activity. The rise in the use of videotapes as ancillary materials in many speech courses is in part due to the desire of

instructors to liven up the classroom, i.e. make the learning environment more active. To be sure, a professionally produced videotape with lots of movement and a lively soundtrack is bound to provide more action than even the most animated of lecturers, but the student still sits idly by and observes.

Computer-based instruction provides the most potential of a technology-induced active learning atmosphere. Yet Hemphill and Standerfer (1986) demonstrated clearly that the ability of computer-based instruction to generate an interactive learning environment is a function of the design of the lesson, not of the technology.

Clearly then it's what you do with technology that facilitates active learning. In fact, it's fairly easy to imagine an instructor using technology to make learning less active. The instructor who processes an exercise toward a pre-defined objective may actually inhibit the natural learning of the student. Or, the instructor who pre-selects certain scenes from a video to show students during class (not unlike the remote control hogging channel surfer) exerts even more control over the class than normal. Hemphill and Standerfer (1986) cautioned instructional designers against producing computer-based lessons that amount to nothing more than electronic page turners. Their research indicated that students had a more adverse reaction to computer technology used in this way than to the more traditional textbook lesson.

It's important to remember that all levels of technology can provide the opportunity to enhance active learning. For example, designing a written exercise that includes new instruction and involves no instructor feedback gives the student more control over the information. In the same way, developing an interactive video computer-based lesson with minimal overt structure can give the student control over lesson flow and enhance discovery learning.

The challenge for the instructor, then, is not to incorporate the most advanced instructional technologies into the instructional flow. Rather, the instructor interested in facilitating active learning needs to find ways of using various levels of technology to enhance the natural and personal learning of the student.

Active Learning in the Basic Speech Course

Through the Seventies and Eighties, the basic speech course at UALR was not unlike any other "hybrid" introductory communication course. Students were introduced to a broad, but not deep, treatment of the field. In sixteen weeks our students read coverages of communication theory and models, self concept, listening, verbal language, nonverbal communication, interpersonal communication, small group communication, and public speaking (including both informative and persuasive message development). In addition to the course content, students were asked to deliver a couple of speeches, participate in a small group presentation, and write a couple of papers. To be honest, we're not sure if our course curriculum was driven by the content of the textbook we chose, or by the all-too-common teaching philosophy that you teach what you know for no other reason than the fact that you know it. In all likelihood it was a probably a combination of both. One thing is for sure, our course was more responsive to the faculty and textbook publishers than it was to our students.

Ten years ago our faculty decided to identify what we really wanted our students to accomplish in the basic course and develop the necessary course materials to achieve those objectives. Two outcomes of that decision became immediately clear. First, as a faculty we were not going to be able to treat all of the topics we wanted to in the course. In essence, some of our best material was destined to be left on the cutting room floor. We realized that just because we knew it (and enjoyed talking about it) the students

did not have to know it. Second, the likelihood of finding existing course materials, e.g., a textbook, that would meet our specific course objectives was low. Textbook publishers try to meet the needs of a widespread market. The more our course objectives deviated from the traditional survey approach of most introductory speech courses, the less likely we would be able to find a text for our class. Our decision to revamp our basic course, then, required us to develop our own department-specific materials.

Over the past ten years we have produced three different textbooks for use in our class. Each revision of the text was a result of a refinement in course objectives. The current objectives of the course focus on: (1) developing the students' communication literacy, i.e., basic communication concepts and terminology; (2) managing a minor disagreement; (3) participating in a study group; (4) conducting an informative interview; (5) meeting someone for the first time; and (6) delivering an in-class report.

On paper these objectives may not appear much different from the formal traditional approach. In practice, though, the objectives represent a dramatically narrowed treatment of the discipline for our basic course students. In essence, we shifted our focus from trying to teach our students everything we could about communication to preparing them to communicate more effectively in the kinds of situations they were likely to encounter as a student. In doing so, we made a conscious shift from breadth to depth of treatment.

Technology and Active Learning in the Basic Speech Course

Instructional technology has played a key role in facilitating active learning in the basic speech course at UALR. Three examples of how technology has been used to give the students more control and more opportunities for discovery are the use of feature films in class, bar-coded laser discs, and interactive computer-based instruction.

It's not uncommon to find speech instructors who use feature films to support their lectures in the basic course. Watzlawick, Beavin, and Jackson (1967) noted that the use of *Who's Afraid of Virginia Woolf?* to illustrate their theory of interactional systems was preferable to examining actual clinical data because unedited natural history data is too voluminous to be of any good. The play, on the other hand, is not only fixed by artistic license, it can be "even more real than reality" (p. 150). The same could be said of using feature films. One does not have to search far to find films dealing with group communication, e.g., *Twelve Angry Men*, relationship development, e.g., *When Harry Met Sally* or *Annie Hall*, family communication, e.g., *Ordinary People*, organizational communication, *Working Girl*, or any other topic relevant to the study of communication.

Merely showing a film and leading a discussion of how it relates to certain concepts defined by the instructor will not generate much active learning. Giving the student the freedom to view the film and find connections to concepts that he or she thinks are relevant will promote active learning in two ways. First, the student will exert greater control over the learning process by directing the flow the analysis, rather than having the instructor control the flow. Second, the student will be in a better position to discover connections to concepts that neither the student nor the instructor could have anticipated.

A similar effect can be generated by using bar-coded laserdiscs in class. The digital encoding of information on the laserdisc allows for instant access to any frame of video on the disc. Bar-codes allow the instructor to identify various segments of the disc ahead of time and, using a bar-code reader, show those segments in any order at any time during a lecture. Bar-codes facilitate active learning because they allow the instructor to show video segments in re-

sponse to student generated ideas. For example, a laserdisc of three sample student speeches is used in the basic course at UALR. Among the many bar-codes that have been created for this disc are a set that identify every example of speech transitions included in the three presentations. Equipped with that sheet of bar-codes, an instructor is prepared to show his or her class as many examples of speech transitions as is necessary. The important point of this application is that the instructor does not pre-determine that the class will see the transition examples, instead the instructor allows the students to control what example will be viewed by responding to the students' direction.

The most elaborate example of instructional technology we use at UALR is computer-based instruction. We have developed seven different computer-controlled lessons in support of the instructional objectives of the basic course. While the lessons are stand-alone presentations, they still contribute to the active learning in the course. For example, the lesson on public speaking introduces the student to the seven public speaking evaluation criteria that are used in the course. This is information an instructor would normally give the students via a lecture. With computer-based instruction, the students can learn the material in a dynamic way on their own, freeing-up in-class time for more experiential activities. Active learning is enhanced in at least two ways. First, because of the way the lessons are designed, the students exerts complete control over the order of presentation of the material. Secondly, because the lesson includes interactive video clips of actual student speeches, the students are more likely to discover additional information about effective speaking beyond the formal boundaries of the lesson's content, merely by observing videos of other students giving speeches.

Conclusion

One of the advantages of our approach to instructional technology is the ability to incorporate more active learning strategies in the class. Because we are no longer constrained by an ever-increasing body of information, we are able to spend more time developing a deeper understanding of fewer objectives. Instructors are able to decrease the emphasis on lectures and increase the emphasis on student activity.

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